

PROJECT NUMBER: 2108  
PROJECT TITLE: New Product Technology  
PROJECT LEADER: W. T. Callahan  
PERIOD COVERED: September, 1988

I. PROJECT SAUNA

A. Objective: Develop an acceptable product with a modified fluted plastic filter.

B. Status: Cigarettes with 50% and 60% constant dilution (flutes occluded) were remade at lower tobacco weights and evaluated by EEMA personnel. Both models were subjectively acceptable, however, the 50% model was preferred. The ISO tar deliveries were slightly above the target of 10 mg as shown below:

FRONT BAND DILUTION, %	50	60	60
TOBACCO WEIGHT, mg	650	630	650
ISO TAR, mg	11.4	10.9	10.0

Additionally, a substantial amount of sidestream smoke due to back pressure was noted coming from the front band dilution holes.

C. Plans: A meeting was held with EEMA personnel to discuss changes in cigarette design in order to further reduce tar values and eliminate the back flow of smoke. These design changes will include the use of electrostatically perforated cigarette paper, reduced front band dilution, and/or faster cigarette paper. Also, several tippings with different adhesives will be evaluated for improved bonding to the fluted filter.

II. HUMIDOR PACK

A. Objective: Develop a moisture release device for use in a cigarette pack which maintains the pack OV at a desired level.

B. Status: A second production run of Humidor packets was made at Klockner Packaging with different foil laminate materials. As in the first production run, leaking seams and curling packets were encountered. Consequently, discussions were held with Celanese regarding improvements to the Celgard film material and with PPG Industries regarding their Teslin film material. A confidentiality agreement is being pursued with PPG. Celanese attempted to make packets for us in their lab and encountered similar problems as at Klockner.

One of the stiffer foil laminate backings which did not work with Celgard was used successfully with cellulose triacetate (CTA) film in the lab. CTA film has been shown in the past to perform similarly to Celgard, therefore, further investigation of these two materials together will be conducted.

The development cigarette packer that Engineering has been working on has been relocated to the OC basement. Hand-made packets are

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being prepared in the lab for further packer development work since production packets have been unacceptable.

C. Plans: Celanese has recommended a contract packager who has experience producing medical packets using Celgard. R&D and Engineering personnel will visit this packager to assess their capabilities. Aging trials of the cellulose triacetate film with the new backing will be initiated.

### III. KAYMICH DIRECT MENTHOL APPLICATOR

A. Objective: Evaluate a Kaymich direct menthol applicator as an alternative mentholation process.

B. Status: Cigarettes mentholated via a 6 hole nozzle versus a 4 hole nozzle gave the same level of menthol in smoke, however, tipper performance was unacceptable with the 4 hole nozzle due to menthol bleeding through the paper. Menthol losses at the maker continued to run approximately 5-7%. Further improvements in machine performance were attempted during a 7.5 hour test with an 8 hole nozzle and a cooling bar to reduce menthol losses at the maker. Losses at the maker were the same as before. Samples are currently being analyzed. Also observed during the extended test was an unexplainable electronic failure which according to Kaymich, has been observed by them in the past.

C. Plans: As a result of a meeting between Semiworks, Tobacco Materials, Product Development and Cigarette Technology personnel, an additional trial run will be made to subjectively evaluate a Kaymich model versus a menthol-on-foil control using the best machine configuration currently available. Additional development work will be pursued pending the results of this trial.

### IV. EMBOSSING TECHNOLOGY

A. Objective: Explore embossing technology for potential new product development.

B. Status: Fabrication of the second generation laboratory embossing unit is on schedule and delivery is expected in about two weeks. Development work continues with Intaroto on new embossing designs for improved product capability. Several promising prototypes should be available in October.

C. Plans: Continue providing support to Engineering as needed for new product development.

### V. MENTHOL ON FOIL

A. Objective: Support the introduction of the menthol on foil process.

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B. Status: Mentholated foils were prepared for Product Development, Filter R&D and FML Development during September.

The third mentholator control problem has not been corrected yet by Engineering due to priorities.

C. Plans: Produce samples as requested. Qualify the third mentholator for use in Semiworks when operational.

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